

CLAIMS

What is claimed is:

1. A method of welding a plurality of overlapping members having a coating comprising the steps of:
 - providing a hole in an upper member;
 - releasing said coating on a lower member located below said hole in a vapor hole; and
 - introducing a filler into said hole to secure said upper member to said lower member.
2. The method as recited in claim 1 wherein the step of providing said hole includes drilling.
3. The method as recited in claim 1 wherein the step of providing said hole includes punching.
4. The method as recited in claim 1 wherein the step of releasing said coating is achieved by utilizing a welding torch.
5. The method as recited in claim 1 wherein the step of introducing said filler includes advancing said filler into said hole, holding said filler in said hole to form a weld pool, and withdrawing said filler.
6. The method as recited in claim 1 further including the step of clamping said overlapping members prior to the step of releasing said coating.
7. The method as recited in claim 1 wherein said overlapping members are steel and the coating is zinc.

8. The method as recited in claim 7 wherein said filler is copper based wire.
9. The method as recited in claim 1 wherein said overlapping members are aluminum alloy and the coating is oxide.
10. The method as recited in claim 9 wherein said filler is aluminum wire.
11. The method as recited in claim 1 wherein said overlapping members are supported from beneath by a support member.
12. The method as recited in claim 1 wherein a gap exists between said upper member and said lower member, and said filler flows in said gap.
13. The method as recited in claim 1 wherein said filler has a melting temperature lower than a melting temperature of said overlapping members.

14. A welding apparatus for welding a plurality of overlapping members having a coating comprising:
 - an upper member including a hole positioned over a lower member;
 - a plasma arc torch operable to release said coating from said lower member under said hole; and
 - a filler to fill said hole and secure said lower member to said upper member.
15. The apparatus as recited in claim 14 further including a supporting member to support said overlapping members from beneath.
16. The apparatus as recited in claim 14 wherein said overlapping members are steel and the coating is zinc.
17. The apparatus as recited in claim 16 wherein said filler is copper based wire.
18. The apparatus as recited in claim 14 wherein said overlapping members are aluminum alloy and the coating is oxide.
19. The apparatus as recited in claim 18 wherein said filler is aluminum wire.
20. The apparatus as recited in claim 1 wherein a gap exists between said upper member and said lower member, and said filler flows in said gap.
21. The apparatus as recited in claim 1 wherein said filler has a melting temperature lower than a melting temperature of said overlapping members.